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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,077	03/12/2004	Ramachandra Reddy	VASG-P01-001	2078
28120	7590	10/31/2006	EXAMINER	
FISH & NEAVE IP GROUP ROPES & GRAY LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624			CHONG, KIMBERLY	
			ART UNIT	PAPER NUMBER
			1635	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/800,077	Applicant(s) REDDY ET AL.	
	Examiner Kimberly Chong	Art Unit 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-11,13-25,30-59,61-83 and 88-91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-11,13,14 and 59 is/are rejected.
- 7) ☒ Claim(s) 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/7/06, 9/14/06, 9/22/06</u> | 6) <input checked="" type="checkbox"/> Other: <u>attached alignment</u>                 |

## **DETAILED ACTION**

### ***Status of Application/Amendment/Claims***

Applicant's response filed 08/07/2006 has been considered. Rejections and/or objections not reiterated from the previous office action mailed 04/03/2006 are hereby withdrawn. The following rejections and/or objections are either newly applied or are reiterated and are the only rejections and/or objections presently applied to the instant application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

With entry of the amendment filed on 08/07/2006, claims 1, 3, 5-11, 13-25, 30-59, 61-83, 88-91 are pending, claims 1, 3, 5-11, 13-17 and 59 are currently under examination, claims 2, 4, 12, 26-29 and 60 have been canceled and claims 18-58, 61-83 and 88-91 are withdrawn as being drawn to a non-elected invention.

Response to Applicant's arguments filed 08/07/2006 are moot in view of the new grounds of rejections below.

### ***Election/Restrictions***

Applicants continue to traverse the restriction requirement and reiterate the arguments already made of record. Applicants state the claimed invention relates to a genus of nucleic acid compounds that decrease the expression of EphB4 in a cell rather than a species. Applicants argue it is "in appropriate for the Examiner to restrict the claimed invention to an un-recited species in a genus claim.

Art Unit: 1635

As stated in the previous Office action filed 04/03/2006, the restriction requirement was made FINAL for the reasons of record. Further, the requirement to elect a single sequences was *not* a requirement to elect a species, as was specifically stated in the Office action filed 10/21/2005. The restriction requirement to elect a single sequence was because a search of more than one sequence would present an undue burden on the Patent and Trademark Office due to the complex nature of the search *and* corresponding examination of more than one sequence. Therefore, the requirement is still deemed proper and is therefore remains FINAL.

### ***Claim Objections***

Claims 15-17 are objected to as being dependent upon a rejected base claim and reciting non-elected subject matter, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and deleting non-elected subject matter.

### ***Claim Rejections - 35 USC § 102 or 35 USC § 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1635

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5-7, 9-11, 13 and 59 are rejected under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) as being anticipated by or obvious over Bennett et al. (Patent No: 6,277,640).

The claims are drawn to an isolated nucleic acid compound comprising at least a portion that is complementary to at least 15 contiguous nucleotides of an EphB4 transcript, wherein the EphB4 transcript has a nucleotide sequence set forth in SEQ ID NO: 392, wherein the nucleic acid compound comprises a nucleotide sequence that is complementary to a region consisting of not more than 500 nucleotides of SEQ Id NO: 392, wherein the nucleic acid compound is from about 15 to about 75 nucleotides in length, wherein the compound is single-stranded, a DNA molecule, a RNA molecule or DNA strand and an RNA strand modified or is an antisense nucleic acid, wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide and drawn to pharmaceutical composition comprising said nucleic acid compound.

Bennett et al. teach an antisense compound, 18 nucleobases in length, that is complementary to at least 15 contiguous nucleotides of EphB4 set forth in SEQ ID NO: 392 (see attached sequence alignment and SEQ ID NO: 94). Bennett et al. teach the compound is single-stranded, a DNA molecule or a RNA molecule (see column 5, lines 35-45), wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide (see columns 7-8). Bennett et al. teach pharmaceutical compositions comprising said nucleic acid compounds (see column 12, lines 30-65).

Therefore, the nucleic acid sequence taught by Bennett *et al.* meets the structural limitation of claims 1, 3, 5-7, 9-11, 13 and 59 of the instant application and would be expected to hybridize to a nucleic acid encoding of EphB4 and decrease expression of EphB4 in a cell. See, for example, MPEP 2112, which states "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic.

Although Bennett et al. does not explicitly disclose said antisense compound would decrease the expression of EphB4 in cells, the antisense compound taught by Bennett et al. is structurally identical to the claimed nucleic acid compound and therefore the claimed function of decreasing the expression of EphB4 would be an inherent property. The instantly claimed antisense compound is required to have at least a portion that is complementary to at least 15 contiguous nucleotides of an EphB4 transcript and thus decrease expression of EphB4. Bennett et al. teach antisense compounds wherein at least 15 contiguous nucleotides are complementary to the open reading frame of EphB4 having SEQ ID NO. 392 and Bennett et al teach that an antisense compound that hybridizes effectively to the open reading frame of a target gene would function to interfere with expression of said target gene (see columns 3 and 4). Bennett et al. further state antisense compounds are routinely used as therapeutic agents to interfere with expression from target nucleic acids in cells.

Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims and the instant claims are anticipated or is obvious over Bennett et al.

Claims 1, 3, 5-8, 10-11, 13 and 59 are rejected under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) as being anticipated by or obvious over Khvorova et al. (US 2005/0246794).

The claims are drawn to an isolated nucleic acid compound comprising at least a portion that hybridizes to an EphB4 transcript, wherein the EphB4 transcript has a

Art Unit: 1635

nucleotide sequence set forth in SEQ ID NO: 392, wherein the nucleic acid compound comprises a nucleotide sequence that is complementary to a region consisting of more than 500 nucleotides of SEQ ID NO: 392, wherein the region has at least 8 contiguous nucleotides of the SEQ ID NO: 392, wherein the nucleic acid compound is from about 15 to about 75 nucleotides in length, wherein the compound is single-stranded, double-stranded, a DNA molecule, a RNA molecule or DNA strand and an RNA strand modified or is an antisense nucleic acid, wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide, wherein the compound is an enzymatic nucleic acid, wherein the enzymatic compound is a ribozyme, wherein the enzymatic nucleic acid is a DNA enzyme and drawn to pharmaceutical composition comprising said nucleic acid compound.

Khvorova et al. teach a dsRNA compound, 19 nucleobases in length that is complementary to at least 15 contiguous nucleotides of EphB4 set forth in SEQ ID NO: 392 (see attached sequence alignment and SEQ ID NO: 4253). Khvorova et al. teach the compound is single-stranded that can form a hairpin loop or a double-stranded RNA molecule (see paragraph 0109), wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide (see paragraphs 0136-0138). Khvorova et al. teach pharmaceutical compositions comprising said nucleic acid compounds (see paragraphs 0316). Therefore, the nucleic



Art Unit: 1635

acid sequence taught by Khvorova *et al.* meets the structural limitation of claims 1, 3, 5-8, 10-11, 13 and 59 of the instant application and would be expected to hybridize to a nucleic acid encoding of EphB4. See, for example, MPEP 2112, which states "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

Although Khvorova *et al.* does not explicitly disclose said antisense compound would decrease the expression of EphB4 in cells, the antisense compound taught by Khvorova *et al.* is structurally identical to the claimed nucleic acid compound and therefore the claimed function of decreasing the expression of EphB4 would be an inherent property. The instantly claimed antisense compound is required to have at least a portion that is complementary to at least 15 contiguous nucleotides of an EphB4 transcript and thus decrease expression of EphB4. Khvorova *et al.* teach said nucleic acid compound binds to a target gene and attenuate the expression from said nucleic acid target (see column 5-6) that a nucleic acid compound comprises an antisense compound that contains a region that specifically binds to a target nucleic acid and has

Art Unit: 1635

RNA cleavage enzymatic activity to effectively inhibit nucleic acid expression of a target gene (see column 4).

Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims and the instant claims are anticipated or is obvious over Khvorova et al.

Claims 1, 3, 5-11, 13 and 59 are rejected under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) as being anticipated by or obvious over Robbins et al. (Patent No: 6,770,633).

The claims are drawn to an isolated nucleic acid compound comprising at least a portion that hybridizes to an EphB4 transcript, wherein the EphB4 transcript has a nucleotide sequence set forth in SEQ ID NO: 392, wherein the nucleic acid compound comprises a nucleotide sequence that is complementary to a region consisting of n more than 500 nucleotides of SEQ ID NO: 392, wherein the region has at least 8 contiguous nucleotides of the SEQ ID NO: 392, wherein the nucleic acid compound is from about 15 to about 75 nucleotides in length, wherein the compound is single-stranded, double-stranded, a DNA molecule, a RNA molecule or DNA strand and an RNA strand modified or is an antisense nucleic acid, wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide, wherein the compound is an enzymatic nucleic acid, wherein the enzymatic compound is a ribozyme, wherein the enzymatic nucleic acid is a DNA

Art Unit: 1635

enzyme and drawn to pharmaceutical composition comprising said nucleic acid compound.

Robbins et al. teach a compound, 19 nucleobases in length that is complementary to at least 15 contiguous nucleotides of EphB4 set forth in SEQ ID NO: 392 (see attached sequence alignment and SEQ ID NO: 4253). Robbins et al. teach the compound is single-stranded, double-stranded, a DNA molecule or a RNA molecule (see Figure 6 and column 7 lines 15-35), wherein the compound comprises one modified backbone or base moieties, wherein the compound has at least one internucleotide linkage, wherein the compound comprises at least one 2'-O-alkylated ribonucleotide (see columns 5, lines 4-34). Robbins et al. teach pharmaceutical compositions comprising said nucleic acid compounds (see columns 9-10). Therefore, the nucleic acid sequence taught by Robbins *et al.* meets the structural limitation of claims 1, 3, 5-11, 13 and 59 of the instant application and would be expected to hybridize to a nucleic acid encoding of EphB4. See, for example, MPEP 2112, which states "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103. and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic.

Art Unit: 1635

Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

Although Robbins et al. does not explicitly disclose said antisense compound would decrease the expression of EphB4 in cells, the antisense compound taught by Robbins et al. is structurally identical to the claimed nucleic acid compound and therefore the claimed function of decreasing the expression of EphB4 would be an inherent property. The instantly claimed antisense compound is required to have at least a portion that is complementary to at least 15 contiguous nucleotides of an EphB4 transcript and thus decrease expression of EphB4. Robbins et al. teach antisense compounds wherein at least 15 contiguous nucleotides are complementary to the open reading frame of EphB4 having SEQ ID NO. 392 and Robbins et al. teach that a nucleic acid compound comprises an antisense compound that contains a region that specifically binds to a target nucleic acid and has RNA cleavage enzymatic activity to effectively inhibit nucleic acid expression of a target gene (see column 4).

Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims and the instant claims are anticipated or is obvious over Robbins et al.

Claims 1, 3 and 14 are rejected under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) as being anticipated by or obvious over Venter et al. (Patent No: 6,812,339).

The claims are drawn to an isolated nucleic acid compound comprising at least a portion that hybridizes to an EphB4 transcript, wherein the EphB4 transcript has a

Art Unit: 1635

nucleotide sequence set forth in SEQ ID NO: 392, wherein the nucleic acid compound comprises a nucleotide sequence that is complementary to a region consisting of more than 500 nucleotides of SEQ ID NO: 392, wherein the region has at least 8 contiguous nucleotides of the SEQ ID NO: 392, wherein the antisense nucleic acid compound comprises a sequence having SEQ ID NO. 231.

Venter et al. teach a nucleic acid sequence, 601 nucleobases in length that is complementary to at 20 nucleotides of EphB4 set forth in SEQ ID NO: 392 (see attached sequence alignment). The specification at page 23 discloses an antisense is a non-enzymatic nucleic acid sequence that binds to a target nucleic acid and does not disclose a size limitation for the instantly claimed antisense compound. Therefore, the nucleic acid sequence taught by Venter *et al.* meets the structural limitation of claims 1, 3 and 14 of the instant application and would be expected to hybridize to a nucleic acid encoding of EphB4. See, for example, MPEP 2112, which states "[w]here applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection: "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

Art Unit: 1635

Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims and the instant claims are anticipated or is obvious over Venter et al.

***Response to Applicant's Arguments***

***Claim Rejections - 35 USC § 112***

The rejection of record of claim 29 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement has been withdrawn in response to claim amendments filed 08/07/2006.

***Re: Claim Rejections - 35 USC § 102 or 35 USC § 103***

The rejection of record of claims 1-7, 9-13 and 59-60 under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) as being anticipated by or obvious over Bennett *et al.* has been withdrawn in response to claim amendments filed 08/07/2006.

The rejection of record of claims 1-13, 26-29 and 59-60 under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) as being anticipated by or obvious over Pavco *et al.* (Patent No: 6,346,398) has been withdrawn in response to claim amendments filed 08/07/2006.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Chong whose telephone number is 571-272-3111. The examiner can normally be reached Monday thru Thursday between 6 and 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached at 571-272-4517. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

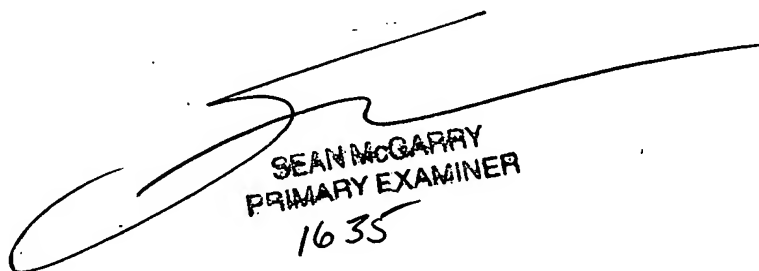
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Art Unit: 1635

application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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Kimberly Chong  
Examiner  
Art Unit 1635



SEAN MCGARRY  
PRIMARY EXAMINER  
1635



RESULT 4  
US-09-59

```

: Sequence 41, Application US/09593711A
: Patent No. 6271030
: GENERAL INFORMATION:
: APPLICANT: Brett P. Montis
: APPLICANT: Magdelaine M. Butler
: TITLE OF INVENTION: ANTISENSE MODULATION OF C/EBP BETA EXPRESSION
: FILE REFERENCE: RTS-0118
: CURRENT APPLICATION NUMBER: US/09/593,711A
: CURRENT FILING DATE: 2000-06-14
: NUMBER OF SEQ ID NOS: 244
: SEQ ID NO 41
: LENGTH: 20
: TYPE: DNA
: ORGANISM: Artificial Sequence
: FEATURE:
: OTHER INFORMATION: Antisense oligonucleotide
: US-09-593-711A-41.

```

Query Match	0.4;	Score 17.4;	DB 1;	length 20;
Best Local Similarity	94.7;	Pred. No. 18;		
Matches 18; Conservative	0;	Mismatches 1;	Indels 0;	Gaps 0;

```

QY      214 GCGGCGGCCGGTGCCCG 232
          |||||
          1 GCGGCGGCCGGGCCCG 19
DB

```

RESULT 5  
US-09-22

```

Sequence 91, Application US/0526012
Patent No. 6207383
GENERAL INFORMATION:
APPLICANT: Keating, Mark T.
APPLICANT: Splawski, Igor
TITLE OF INVENTION: MUTATIONS IN AND GENOMIC STRUCTURE OF HERG - A LONG QT
TITLE OF INVENTION: SYNDROME GENE
FILE REFERENCE: 2323-136
CURRENT APPLICATION NUMBER: US/09/226,012
CURRENT FILING DATE: 1999-01-06
EARLIER APPLICATION NUMBER: 09/122,847
EARLIER FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 116
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO: 91
LENGTH: 21
TYPE: DNA
ORGANISM: Homo sapiens
IS-09-226-012-91

```

Query Match	0.4%	Score 16.8;	DB 1;	Length 21;
Best Local Similarity	90.0%;	Pred. NO. 26;		
Matches 18; Conservative	0;	Mismatches 2;	Indels 0;	Gaps 0;

2018 GTGTGCTCTGTCTGTG 2037  
 |||||  
 20 GTCTGCTCAGTCTGTG 1

RESULT 6  
US-09-63

SequenceNo.2, Application US/093630706  
Patent No. 6277640  
GENERAL INFORMATION:  
APPLICANT: C. Frank Bennett  
APPLICANT: Lex M. Cowesett  
TITLE OF INVENTION: ANTISENSE MODULATION OF HER-3 EXPRESSION  
FILE REFERENCE: RTS-0053  
CURRENT APPLICATION NUMBER: US/09/630.706  
CURRENT FILING DATE: 2000-08-01  
NUMBER OF SEQ ID NOS: 94

```

? SEQ ID NO 22
? LENGTH: 18
? TYPE: DNA
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: Antisense Oligonucleotide
? OS-0530-706-22

```

Query Match	0.4;	Score 16.4;	DB 1;	Length 18;
Best Local Similarity	94.4;	Pred. No. 22;		
Matches 17; Conservative	0;	Mismatches 1;	Indels 0;	Gaps 0

```
Oy      105 ACCCCAACTCCAGCCACG 122
          || |||||
Db      18 ACACCACTCCAGCCACG 1
```

RESULT 7  
US-09-47

```

sequence 333, Application US/09475947A
Patent No. 647154
GENERAL INFORMATION:
APPLICANT: Garnier, Harold R.
APPLICANT: Wren, Jonathan D.
APPLICANT: Minna, John D.
TITLE OF INVENTION: Polymorphic Repeats in Human Genes
FILE REFERENCE: UTS00667
CURRENT APPLICATION NUMBER: US/09/475,947A
CURRENT FILING DATE: 1999-12-31
NUMBER OF SEQ ID NOS: 346
SOFTWARE: Patencin Ver. 2.1
SEQ ID NO 333
LENGTH: 18
TYPE: DNA
ORGANISM: human
US-09-475-947A-333

```

Query Match	0.4%	Score 16.4;	DB 1;	Length 18;
Best Local Similarity	94.4%	Pred. No. 22;		
Matches 17; Conservative	0;	Mismatches 1;	Indels 0;	Gaps 0

```

QY      1069 GGGCCCAAGCCCAAGCTC 1086
          |||||
Db      1 GGGCCCAAGCTCAAGCTC 18

```

RESULT 8  
US-08-20

Sequence 6, Application US/08204697  
Patent No. 5648482  
GENERAL INFORMATION:  
APPLICANT: Meyer, Urs A  
TITLE OF INVENTION: DETECTION OF POOR METABOLIZERS OF DRUGS  
NUMBER OF SEQUENCES: 18  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Hoffmann-La Roche Inc.  
STREET: 340 Kingdland Street  
CITY: Nutley  
STATE: New Jersey  
COUNTRY: U.S.  
ZIP: 07110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/204,697  
FILING DATE:  
CLASSIFICATION: 435  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US 07/716,500  
FILING DATE: 17-JUN-1991

## RESULT 473

US-11-101-244-159379  
Sequence 159379, Application US/11101244  
Publication No. US20050246794A1  
GENERAL INFORMATION:  
APPLICANT: Dharmacon, Inc.  
APPLICANT: Khvorova, Anastasia  
APPLICANT: Reynolds, Angela  
APPLICANT: Leake, Devin  
APPLICANT: Marshall, William  
APPLICANT: Scaringe, Stephen  
TITLE OF INVENTION: Functional and Hyperfunctional siRNA  
FILE REFERENCE: 13499US  
CURRENT APPLICATION NUMBER: US/11/101,244  
CURRENT FILING DATE: 2005-04-07  
PRIOR APPLICATION NUMBER: 60/502,050  
PRIOR FILING DATE: 2003-09-10  
PRIOR APPLICATION NUMBER: 60/426,137  
PRIOR FILING DATE: 2002-11-14  
NUMBER OF SEQ ID NOS: 1591911  
SOFTWARE: Proprietary  
SEQ ID NO 159379  
LENGTH: 19  
TYPE: RNA  
ORGANISM: Homo sapiens  
US-11-101-244-159379

Query Match 0.4%; Score 19; DB 1; Length 19;  
Best Local Similarity 84.2%; Pred. No. 4.5e+02;  
Matches 16; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 845 GGAAGGTGAATCTCAAGC 863  
DB 1 GGAAGGTGAATCTCAAGC 19

## RESULT 474

US-11-101-244-159380  
Sequence 159380, Application US/11101244  
Publication No. US20050246794A1  
GENERAL INFORMATION:  
APPLICANT: Dharmacon, Inc.  
APPLICANT: Khvorova, Anastasia  
APPLICANT: Reynolds, Angela  
APPLICANT: Leake, Devin  
APPLICANT: Marshall, William  
APPLICANT: Scaringe, Stephen  
TITLE OF INVENTION: Functional and Hyperfunctional siRNA  
FILE REFERENCE: 13499US  
CURRENT APPLICATION NUMBER: US/11/101,244  
CURRENT FILING DATE: 2005-04-07  
PRIOR APPLICATION NUMBER: 60/502,050  
PRIOR FILING DATE: 2003-09-10  
PRIOR APPLICATION NUMBER: 60/426,137  
PRIOR FILING DATE: 2002-11-14  
NUMBER OF SEQ ID NOS: 1591911  
SOFTWARE: Proprietary  
SEQ ID NO 159380  
LENGTH: 19  
TYPE: RNA  
ORGANISM: Homo sapiens  
US-11-101-244-159380

Query Match 0.4%; Score 19; DB 1; Length 19;  
Best Local Similarity 84.2%; Pred. No. 4.5e+02;  
Matches 16; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 504 GGAAGGTGAAGGCTCGAT 522  
DB 1 GGAAGGTGAAGGCTCGAT 19

## RESULT 475

US-11-101-244-159381  
Sequence 159381, Application US/11101244  
Publication No. US20050246794A1  
GENERAL INFORMATION:  
APPLICANT: Dharmacon, Inc.  
APPLICANT: Khvorova, Anastasia  
APPLICANT: Reynolds, Angela  
APPLICANT: Leake, Devin  
APPLICANT: Marshall, William  
APPLICANT: Scaringe, Stephen  
TITLE OF INVENTION: Functional and Hyperfunctional siRNA  
FILE REFERENCE: 13499US  
CURRENT APPLICATION NUMBER: US/11/101,244  
CURRENT FILING DATE: 2005-04-07  
PRIOR APPLICATION NUMBER: 60/502,050  
PRIOR FILING DATE: 2003-09-10  
PRIOR APPLICATION NUMBER: 60/426,137  
PRIOR FILING DATE: 2002-11-14  
NUMBER OF SEQ ID NOS: 1591911  
SOFTWARE: Proprietary  
SEQ ID NO 159381  
LENGTH: 19  
TYPE: RNA  
ORGANISM: Homo sapiens  
US-11-101-244-159381

Query Match 0.4%; Score 19; DB 1; Length 19;  
Best Local Similarity 78.9%; Pred. No. 4.5e+02;  
Matches 15; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

QY 540 GCGCACTTCACAGCTGT 558  
DB 1 GCGCACTTCACAGCTGT 19

\*

## RESULT 476

US-11-101-244-159382  
Sequence 159382, Application US/11101244  
Publication No. US20050246794A1  
GENERAL INFORMATION:  
APPLICANT: Dharmacon, Inc.  
APPLICANT: Khvorova, Anastasia  
APPLICANT: Reynolds, Angela  
APPLICANT: Leake, Devin  
APPLICANT: Marshall, William  
APPLICANT: Scaringe, Stephen  
TITLE OF INVENTION: Functional and Hyperfunctional siRNA  
FILE REFERENCE: 13499US  
CURRENT APPLICATION NUMBER: US/11/101,244  
CURRENT FILING DATE: 2005-04-07  
PRIOR APPLICATION NUMBER: 60/502,050  
PRIOR FILING DATE: 2003-09-10  
PRIOR APPLICATION NUMBER: 60/426,137  
PRIOR FILING DATE: 2002-11-14  
NUMBER OF SEQ ID NOS: 1591911  
SOFTWARE: Proprietary  
SEQ ID NO 159382  
LENGTH: 19  
TYPE: RNA  
ORGANISM: Homo sapiens  
US-11-101-244-159382

Query Match 0.4%; Score 19; DB 1; Length 19;  
Best Local Similarity 89.5%; Pred. No. 4.5e+02;  
Matches 17; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 2063 TCAGAGGACAGGACATCG 2081  
DB 1 TCAGAGGACAGGACATCG 19

## RESULT 477

```

; Patent No. 6559294
; GENERAL INFORMATION:
; APPLICANT: Griffith, R.
; TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments
; TITLE OF INVENTION: Chestnut and uses thereof, in particular for the diagnosis, prevention
; FILE REFERENCE: 9710-003-999
; CURRENT APPLICATION NUMBER: US/09/198,452A
; CURRENT FILING DATE: 1998-11-24
; NUMBER OF SEQ ID NOS: 6849
; SEQ ID NO 2100
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Chlamydia pneumoniae
US-09-198-452A-2100

```

```

Query Match          0.4%; Score 16.4; DB 1; Length 20;
Best Local Similarity 94.4%; Pred. No. 28;
Matches 17; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

```

QY      3134 AAATGGAGATACGAG 3151
DB      19 AAATGGAGATCCGAG 2

```

```

RESULT 12
; Sequence 72, Application US/09696791
; Patent No. 6770633
; GENERAL INFORMATION:
; APPLICANT: Robbins, Joan M.
; TITLE OF INVENTION: RIBOZYME THERAPY FOR THE TREATMENT OF PROLIFERATIVE
; TITLE OF INVENTION: SKIN AND EYE DISEASES
; FILE REFERENCE: 480124.407
; CURRENT APPLICATION NUMBER: US/09/696,791
; CURRENT FILING DATE: 2000-10-25
; NUMBER OF SEQ ID NOS: 4523
; SOFTWARE: Patencin Ver. 2.0
; SEQ ID NO 72
; LENGTH: 19
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: Cdk1 ribozyme binding site
US-09-696-791-72

```

```

Query Match          0.4%; Score 16; DB 1; Length 19;
Best Local Similarity 100.0%; Pred. No. 29;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      4188 CTTTGTATTAATA 4203
DB      19 CTTTGTATTAATA 4

```

# \* RESULT 13

```

US-09-696-791-73/C
; Sequence 73, Application US/09696791
; Patent No. 6770633
; GENERAL INFORMATION:
; APPLICANT: Robbins, Joan M.
; TITLE OF INVENTION: RIBOZYME THERAPY FOR THE TREATMENT OF PROLIFERATIVE
; TITLE OF INVENTION: SKIN AND EYE DISEASES
; FILE REFERENCE: 480124.407
; CURRENT APPLICATION NUMBER: US/09/696,791
; CURRENT FILING DATE: 2000-10-25
; NUMBER OF SEQ ID NOS: 4523
; SOFTWARE: Patencin Ver. 2.0
; SEQ ID NO 73
; LENGTH: 19
; TYPE: DNA

```

```

; ORGANISM: Homo sapiens
; FEATURE:
; OTHER INFORMATION: Cdk1 ribozyme binding site
US-09-696-791-73

```

```

Query Match          0.4%; Score 16; DB 1; Length 19;
Best Local Similarity 100.0%; Pred. No. 29;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

```

QY      4188 CTTTGTATTAATA 4203
DB      17 CTTTGTATTAATA 2

```

```

RESULT 14
US-08-359-705B-22
; Sequence 22, Application US/08359705B
; Patent No. 5844092
; GENERAL INFORMATION:
; APPLICANT: Presta, Leonard G.
; APPLICANT: Ufer, Roman
; TITLE OF INVENTION: Human trk Receptors and Neurotrophic Factor Inhibitors
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 1 DNA Way
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA
; ZIP: 94080
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPatIn (Genentech)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/359,705B
; FILING DATE: 20-Dec-1994
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/286846
; FILING DATE: 08/10/94
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/215139
; FILING DATE: 03/18/94
; ATTORNEY/AGENT INFORMATION:
; NAME: Torchia, PhD., Timothy E.
; REGISTRATION NUMBER: 36,700
; REFERENCE/DOCKET NUMBER: P0873P2
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650/225-8674
; TELEFAX: 650/952-9881
; INFORMATION FOR SEQ ID NO: 22:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 19 base pairs
; TYPE: Nucleic Acid
; STRANDBONDS: Single
; TOPOLOGY: Linear
US-08-359-705B-22

```

```

Query Match          0.4%; Score 15.8; DB 1; Length 19;
Best Local Similarity 89.5%; Pred. No. 32;
Matches 17; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```

```

QY      3539 ACTCGAGCGAGGTGAG 3557
DB      1 ACCCGAGCGAGGTGAG 19

```

```

RESULT 15
US-08-286-846A-22
; Sequence 22, Application US/08286846A

```

RESULT 1

US-09-949-016-46845

; Sequence 46845, Application US/09949016

; Patent No. 6812339

; GENERAL INFORMATION:

; APPLICANT: VENTER, J. Craig et al.

; TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

; TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES  
THEREOF

; FILE REFERENCE: CL001307

; CURRENT APPLICATION NUMBER: US/09/949,016

; CURRENT FILING DATE: 2000-04-14

; PRIOR APPLICATION NUMBER: 60/241,755

; PRIOR FILING DATE: 2000-10-20

; PRIOR APPLICATION NUMBER: 60/237,768

; PRIOR FILING DATE: 2000-10-03

; PRIOR APPLICATION NUMBER: 60/231,498

; PRIOR FILING DATE: 2000-09-08

; NUMBER OF SEQ ID NOS: 207012

; SOFTWARE: FastSEQ for Windows Version 4.0

; SEQ ID NO 46845

; LENGTH: 601

; TYPE: DNA

; ORGANISM: Human

US-09-949-016-46845

Query Match 100.0%; Score 20; DB 3; Length 601;

Best Local Similarity 100.0%; Pred. No. 0.028;

Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 ATGGAGGCCTCGCTCAGAAA 20

Db 191 ATGGAGGCCTCGCTCAGAAA 210